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### (54) Slow release fertilizer spike

(57) An attrition resistant fertilizer spike composition, exhibiting a mechanical strength which allows the spike to be hammered unsupported into the soil without suffering damage, to provide an effective source of slow releasing plant nutrients to the soil. The composition comprises between 93 and 98 percent of particulate plant nutrient compounds containing one phosphate ion chemically combined with one divalent cation and one monovalent cation, including the compounds magnesium ammonium phosphate and magnesium potassium phosphate. The composition includes a coating of between 2 and 7 percent of thermoplastic adhesive with a softening temperature between 65 and 160°C on the

particles. The coated particles are formed into an attrition and shatter resistant spike shape, suitable for hammering into the soil, by pressing into a die at a temperature higher than the softening temperature of the thermoplastic adhesive and then cooling to a temperature lower than the softening temperature. A method of preparing these improved spikes is provided. In the method the thermoplastic adhesive is applied as an aqueous dispersion or emulsion along with a die lubricant prior to pressing the coated particles into a spike exhibiting a high degree of physical integrity.



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## EUROPEAN SEARCH REPORT

Application Number  
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<p>The present search report has been drawn up for all claims</p>			
Place of search	Date of completion of the search		Examiner
MUNICH	8 August 2002		Saldamli, S
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			
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**ANNEX TO THE EUROPEAN SEARCH REPORT  
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